

REMARKS  
ON  
CERTAIN MEDICAL PRINCIPLES  
AND  
PUBLICATIONS.

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*OF PRAGUE.*

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LONDON :  
E. W. ALLEN, 4, AVE MARIA LANE.

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1882.



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# REMARKS

ON

## Certain Medical Principles

AND

### PUBLICATIONS.

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A SHORT time ago, Dr. Lilienfeld, District Medical Officer of Prague, gave public expression to his views on the subject of Vaccination. This was probably done with the concurrence of the adherents of Cowpox Inoculation in Prague, and his remarks appear to have given general satisfaction.

Dr. Lilienfeld states that before the outbreak of the Smallpox epidemic in 1870-1872, he was a staunch supporter of Vaccination, but the aforesaid epidemic cured him of the delusion.

I should like here to remark, that previous to this outbreak, in earlier and milder epidemics, and even in apparently isolated cases of Smallpox, it was not possible for a critical observer to note any difference in the manner in which vaccinated and unvaccinated persons were attacked ; and that in each epidemic of greater severity, the influence of Cowpox Inoculation, looked at apart from the testimony of official or interested witnesses, has become more and more doubtful.

It appears, however, that Dr. Lilienfeld and his friends thought very highly of Vaccination when there was no epidemic of Smallpox, but that during an epidemic their

views underwent an entire change. We may assume, therefore, that a good opinion of Vaccination can only be entertained in the absence of an epidemic ; and that even at such times it is not infrequently observed that by means of Vaccination other diseases (notably Tuberculosis and Syphilis) are propagated.

That the so-called Cowpox, (*Vaccinia*) stands in no relation whatever to Smallpox (*Variola*) is so patent to any unprejudiced observer, that the prevalent theories and teachings to the contrary are almost inconceivable.

This appears first of all in the course of Vaccination itself. Smallpox, we know, will attack persons even during the height of Cowpox. Inoculation with Cowpox may be successfully performed, even during a severe attack of Smallpox. Smallpox not infrequently shows itself after the Cowpox pustules have dried up or fallen off, or at any later period of life ; and what is specially noteworthy is, that it more frequently occurs in the years immediately succeeding Vaccination, and more rarely in the later years of life ; which consideration tends to contradict the prevalent teaching as to Re-Vaccination.

To make this observation clearer let me remark that there is but one kind of Smallpox (*Variola*), and that the various designations, such as Glasspox, Chickenpox, Varicella, Varioloid, and the like, refer to one and the same disease, of which they are in fact intended to specify different degrees. This has been incontestibly shown by the practice of Vaccination. Experience proves that persons are most liable to be attacked by Smallpox in the years immediately succeeding Vaccination ; the liability diminishes in later years, and in old age an attack of Smallpox is an actual rarity.

Cowpox (*Vaccinia*) stands in no connection whatever with Smallpox. Its near relationship at most lies in the fact that both *Vaccinia* and Smallpox exhibit round pustules. Whether cattle are liable to be attacked by Small-



pox is hitherto doubtful : in any case, original pustules on the udder of the cow are extremely rare, and cannot be classed as Variola ; they may more correctly be regarded as Eczema, or a dirty moist itch.

These considerations lead us to the conclusion that the famous vaccinators with "original Cowpox lymph," are for the most part charlatans, who produce the pustulation in the udder of the cow or calf by solutions or ointments of tartar emetic, and drive a fraudulent trade in it. Towards this conclusion many other circumstances seem to point.

That there is no connection between Cowpox and Smallpox is seen again in the well known fact, that long before the Vaccination period (in the time of Sydenham for instance) Smallpox exhibited various degrees of severity : there were then, as now, such light attacks of the disease that scarcely any heed was taken of them : patients went about almost as usual. Now such cases are explained as being entirely due to Vaccination, and the attack is not to be regarded as Variola, but as Varioloid, Varicella, etc.

In the present day every Vaccinator must confess that Vaccination affords no immunity from Smallpox ; that during an epidemic, vaccinated and unvaccinated are alike attacked, recover, or die ; that the appearance and other conditions of the disease present no diversity whatever. If in one family several children fall ill, some being vaccinated and some unvaccinated, we shall find at one time a vaccinated child suffering more severely ; at another time one which has not been vaccinated. I attended a family in which four children were attacked by Smallpox : a little girl of four years old had been vaccinated ; three boys were unvaccinated ; and only the girl succumbed to the disease. In another case it might be just the reverse, and the unvaccinated might be the more severe sufferers.

But these incontrovertible facts prove my thesis, that Cowpox and Variola are in no way connected : that in the event of an attack of Smallpox it is of no manner of

importance whether the patient has been vaccinated; that the attack itself and its degree of severity bear no reference whatever to Vaccination; but that it rests on wholly different conditions whether a person contracts Smallpox, or what degree of severity the disease may assume. It cannot be denied that laymen and doctors often deceive themselves, or deceive each other, and that under certain circumstances, a delusion may be advantageous. As a jest, however, Vaccination is too painful and too clumsy; and while it cannot under any conceivable circumstances do good, it has frequently laid the foundation of serious mischief, disease, and death, namely, from Tuberculosis and Syphilis, even if we pass over the grave consideration of the many infants who annually fall victims to it.

So far as protection from an attack of Smallpox is concerned, it would be of just as much use to wear small artificial pustules made of wood, bone, or metal, for a given time, as to be vaccinated. Nor is this suggestion unreasonable when compared with the contradictory teachings about Vaccination. Some years ago the theory was brought forward, under the auspices of the great alchemistical artist, Hufeland, that Vaccination from tartar emetic pustules was a perfect substitute for Vaccination with Cowpox, and had the same beneficent effect. With this I fully agree; and I remark further that if tartar emetic pustulation is produced in cows and calves, and vaccine matter is then taken from them, such Vaccination is also perfectly harmless. The most convincing proof of the beneficent and identical action of such Vaccination with that of Cowpox is furnished by the fact that it presents pustules similar in size and form, therefore, necessarily of identical value.

The wearing of artificial pustules, then, would be of the same benefit; the operation would be painless and harmless; and that man would be worthy of a monument who would bring this new practice into vogue, and do away with the speculation, stupidity, and mischief now prevalent.



The action of Vaccination from tartar emetic pustules, according to the above celebrity, being identical with that of Cowpox Inoculation, those thus vaccinated are not preserved from Smallpox, but are attacked, sometimes lightly, sometimes severely, or sometimes mortally. There can be no doubt that the wearing of artificial pustules would present precisely similar characteristics, and as long as the business was profitable and appeared desirable to the great medical officials, so long the statistical statements and reports would be just as favourable, and just as much in accordance with truth, as those issued at present.

I have repeatedly asserted that pathological subjects, and the results of pathological doctrines are not of a kind to be germane to statistical tables, because the units concerned are dissimilar, indeterminate, and vague, and frequently only group themselves according to fantastic categories.

Medical statistics are on a level with medical logic, and it is undeniable that medical deductions are quite unique in their way, and find no application either in natural science or in physical or mathematical studies. For instance, given as premises our undeniable experience of Vaccination, how can it be inferred that it is of beneficent action, and should, therefore, be upheld, and if possible more stringently enforced? What would any natural philosopher say to the assertion that the same chemical solution with the same re-agent would at one time yield a white and at another time a black precipitate? Yet logic such as this pervades practical medicine in all its doctrines, and would justify its entire severance from science in all its aims, and its banishment from the circle of exact knowledge. Of the most highly-prized medicaments thus much is known, that their action is sometimes this, sometimes that; the practitioner says that in such a case it has done good, in such another it has not. But a more strict investigation would show that the benefit obtained in the one case had nothing whatever to do with the medicine, and the patient may congratulate himself if the treatment has not in any way injured him.

In this fashion an eminent physician has made deep researches into the cause of convulsions, and has found that in some cases there is a superabundance and in others a deficiency of blood in the brain; and that, therefore, convulsions may arise equally from either cause. Let me remark in passing that such conclusions as to the quantity of blood in any organ, particularly in the brain, are misleading, and have no definite basis; that not unfrequently the very opposite conclusion would be nearer the mark; from which the value of such a theory is apparent. Now, according to ordinary logic, we should argue, if convulsions occur equally where there is a superabundance or a deficiency of blood in the brain, they must surely be independent of the quantity of blood in the brain, and must be attributable to some other conditions.

A notable example of medical logic may be found in Dr. Lilienfeld's address. Certainly he has brought forward nothing new. Agitation and speculation about "Animal Vaccination" are only a few years younger than "Cowpox Inoculation." They are a result of the fresh and sometimes grave outbreaks of Smallpox, notwithstanding the rapid spread of Cowpox Inoculation. Among other remarks Dr. Lilienfeld says:—"Vaccination, as at present practised, virtually stigmatises Cowpox Inoculation as antiquated and useless, and as having forfeited all confidence," etc. Further on he says:—"I do not hesitate to assert that if Vaccination and Re-Vaccination were universally carried out, *lege artis*, with lymph deserving to be called 'Preventive of Smallpox,' we should have no epidemics such as that of 1870-1872, either in extent or severity."

Herein Dr. Lilienfeld is right that we have no lymph which is "preventive of Smallpox." If any matter had a right to be called "pox preventive," Smallpox would naturally have been stamped out long ago. Dr. Lilienfeld would have been spared this delusion, but would at the same time have lost the opportunity of holding forth anew upon "antiquated and useless" matters.

Jenner put forward the creed that Vaccination was infallible and was a life-long preservative against Smallpox ; in fact that it rendered an attack of that disease impossible. When, a few years later, Smallpox happened to occur less frequently, and in a milder form, the alchemistical artists thought it quite natural that though only from 5 to 6 per cent. of the population was vaccinated, the diminution of Smallpox was due to Vaccination ; and every nerve was strained to uphold the practice.

Before the great epidemic of 1870-1872, the population was vaccinated within about 5 or 6 per cent., large numbers having likewise been vaccinated more than once ; and the vaccinators and their adherents were shortsighted or bare-faced enough to pretend that the 5 or 6 per cent. of the unvaccinated were to blame for the epidemic, and even for the appearance of Smallpox at all.

Comparing the designation "Pox preventive matter" and the conditions of Smallpox epidemics from the time of Jenner to the present day, every unprejudiced observer must come to the conclusion that the belief in Vaccination can only be created and upheld by fools or deceivers.

It is not difficult to answer the question whether the presumption as to a "preventive-pox" is reasonable or possible. What kind of world-order would that be into which each speculator or impostor could introduce changes ; in which, for instance, Smallpox and Anti-Smallpox both had place ? Would it not be simpler and more natural to omit both ? But the reader may say that such and similar conditions occur again and again in practical medicine ; to which I readily assent, and add further that as long as Vaccination is practised and patronised by the doctors, as long as the present doctrines with regard to Infection hold their ground, there can be no scientific aim and no spirit of truth visible in medicine.

If Jenner could see the present status of so-called "Vaccination" he would not endorse it as his teaching.



After epidemics which multiply themselves and constitute repeated appearances of Smallpox, the doctors never point out the error, danger, and mischief of their doctrine, nor do they labour for the prohibition of Vaccination ; but they always find new reasons to explain away the facts, and suggest some modification of the old practice, not infrequently advertising their last novelty to the general public.

Of any difference between a pustule, a group of pustules and Variola, Jenner took no heed ; he was probably ignorant of any difference, and was unable to decide whether cattle were liable to Variola. He was surprised at the fact that certain pustules could be communicated by spontaneous (as in the case of lesions) or by artificial Vaccination ; and as pustules and Variola were to his mind one and the same disease, the error, or rather speculation, arose, that the production of certain pustules formed the essence of "Vaccination ;" that a particular form and size of the pustules denoted the "success" of Vaccination ; that these pustules had all the significance of an attack of Smallpox, and would hence form a life-long preservative against that disease.

Daily experience has refuted this speculation ; change of vaccine matter—re-vaccination—have been of no avail, and incontrovertible observations have proved in addition, that by means of Vaccination grave evils are not infrequently communicated to the vaccinees.

The discontinuance of Vaccination and its prohibition (as in the case of Inoculation, once equally prized) may be a matter of time, more especially because it is the interest of the doctors concerned to uphold it, and because the present standard of medical education does not militate against the practice. The prevalent legal routine in which the greatest weight is attached to the dictum of "experts," who, in by far the greater number of cases, draw their justification from the treasury of *lucus a non lucendo*, will only increase the difficulties of such a decision. Any hope of

an initiative towards the discussion and introduction of prohibitive measures from the medical colleges, or from "eminent medical authorities," is, in the present status of medical doctrine, quite unreasonable.

It cannot be denied that medical training in general is based upon no fixed principle, but consists of incoherent and unsubstantial fragmentary knowledge, having nothing in common with actual philosophical study and research. While medical theories are for ever changing, and one impinges upon another proceeding from an entirely different basis, the so-called treatment remains very much the same, is more or less disagreeable to submit to, and not infrequently of serious detriment to the patient. Notwithstanding the changes in medical doctrine, "treatment" permanently represents a species of mosaic, in which bits of alchemy, of the "theory of irritability," perhaps of "cellular pathology," of the "parasite theory," and so on, are more or less distinctly visible.

Medical theories have all one dualistic basis (in Ernst Haeckel's sense) they are interlarded with "active," "passive," "re-active," etc., etc. Doctors fancy that they discern a too great quantity of blood to be consistent with health, and to the injury of the patient they endeavour to correct this as far as possible by blood-letting, purgatives, mineral waters, or by a spare diet—a very unpleasant discipline. These erroneous views as to the abundance of blood are the chief cause of the preposterous advice often given by doctors as to the amount of exercise which a patient is to take or not to take. As a result it frequently happens that exercise is taken where rest is essential, and in almost every case the due measure of exercise is surpassed, seriously hindering the patient's recovery.

"Cellular Pathology," as such, can in no way be brought into causal connection with the prevalent methods of treatment, and since patients must be cured somehow, this may be the reason why Professor Virchow has adopted the

treatment just referred to, and seeks to cure in the same way as the alchemistical artists of old times.

It is difficult to see how Virchow arrived at the above designation—namely, Cellular Pathology—when we consider that cells are not absent in healthy plants and animals ; that there are plenty of diseases without any cell-formation ; and that by far the larger proportion of cells formed during an illness arise as products directly from the blood. And most important of all, as the formation of cells is observable not at the commencement of an illness but only at the height of its development, such cellular formation must be regarded as the fruit and not as the root of the morbid process. The perverted reasoning by which the latter is taken for the former, the fruit for the root, is often met with among pathologists, particularly among those of the Würzburg school ; if, indeed, the workings of that place deserve to be characterised as a school.

The febrile symptoms which are the precursors of pneumonic, typhoid or varioloid deposits and sinuses, are regarded by these people as the effect or reaction of these structural changes ; in fact, as their later consequences.

These and similar febrile phenomena, as the expression of chemical changes taking place in the blood, are of very varied duration and intensity, often appearing as chance or cursory attacks of fever, which, in Tuberculosis or Cancer, recur week after week and month after month, reserving an indefinite meaning until their results become apparent. The older and more correct view regarding them found expression in the description, "*febris inflammatoria accedente pneumonia*," etc. Klebs, for instance, speaks of "a fever which owes its rise to Pneumonia, or Typhus"; this, like the term "reaction" is incorrect, and may probably have the same origin and value as the much lauded explanation of post-mortem records—*Leichenbefunde*—by Virchow at Würzburg.

Pneumonic, typhoid, and varioloid infiltrations take place as a rule between the fourth and eighth days of the febrile



condition, and there is no doubt that the gravity of the disease might be recognized in its earliest days, if we only possessed the needful auxiliaries towards discernment. It is highly probable that an ordinary sporting dog might solve the problem on his first entry into the sick room; but it cannot be solved either by microscope or thermometer.

There is one most important deduction to be gathered from earlier researches, and also from those of Virchow on the same subject—a deduction which might not be pleasing to either Virchow or Klebs, as it does not coincide with their views and tendencies—namely, that the minutest germ and the cells finally formed by it arise in some unknown manner, perhaps by *generatio aequivoca*, develop various forms, grow from membranous tissue to cartilage and bone, contributing to the development of all tissues. This view may render some service as a contribution to the theory of transformation and descent, established as a veritable science by Haeckel.

This metaplasma of the cells is a universal law, showing itself as Virchow taught at one time (though perhaps he teaches differently now), not only in the tumours belonging to Cancer, but as the basis of the development of all nature; and it is more plainly demonstrable in the simpler organizations, as in plants and the lowest animals. Klebs says, "It has gradually become more and more probable that this metaplasma of the cells does not take place, but that the elements derived from various germinal membranes invariably retain the qualities of their progenitors; that epithelium does not form tissue, and that tissue does not form epithelium." This is the older view, the view upheld by Cuvier, for instance, but a simple, unprejudiced observation of Nature allows no doubt to arise in our minds as to the progressive and endless development of her subjects, or as to the mutability and continuous progress of *species* and *genera*.

That modern pathology forms numerous *species* and *genera* we know, but the fact is more frequently overlooked,

that their essence cannot be a formal one, to be defined by the microscope; that it is qualitative, and that therefore new developments from similar forms of the cells may have a widely different signification. From a clinical stand-point, experience leads us to the conclusion that a cancerous deposit *never remains isolated*, even though the present methods of examination show us no difference between isolated and dispersed cancerous deposits; the so-called "cures" by corrosives, fire, or the knife, may refer to isolated deposits, and the practice of such "cures" has, therefore, an indeterminate value. Klebs says, "These elements get quite beyond reason, and do not cease to increase until knife or fire makes an end of the spectre." This flippant manner of speaking, though unbefitting an anatomist, is often to be met with amongst those charlatans, who, armed with prescriptions, knives and forceps, give themselves out as "saviours of life."

Now Cellular Pathology has no connection whatever with practical medicine, and Klebs, as Virchow's best friend, is even of opinion that in this respect it presents "an important stumbling-block in the way of progress." Virchow has done much towards making the German compulsory Vaccination Laws possible, and his tendency as a practical physician is finally visible enough from his advocacy (worthy of an anatomist) of the Hunyadi-János Bitter-water. According to Leibig and Bunsen this horrible Hunyadi-János Bitter-water exceeds in bitter salt and Glauber's salt every hitherto known mineral water; which any one would take to be a sufficient reason for avoiding it, seeing that the action of a spring is injurious just in proportion as it differs from ordinary drinking water. When will doctors learn the superfluity and mischief of all aperients? It would seem as if Hahnemann's experience and teachings were utterly unknown to them, and, unfortunately, it cannot be denied that many homœopaths of the present day partly ignore these teachings and are partly led away by "eminent men." In

the interest of their patients it is much to be regretted that such men as Drs. Scanzoni and Bamberger have found it consistent with their principles and honour to join the afore-said discreditable agitation for the deleterious Bitter-water.

Professor Klebs also has undertaken to formulate a theory of disease, but according to his own confession, he has not quite finished it. It has been proved that certain small insects can pierce through the skin of animals, and so become the source of some diseases, such as Scabies, Acne, Trichinosis, etc., etc. This fact is beyond a doubt, the insects may be caught, removed, their migration *in flagrante* may be observed. Hence the speculation has arisen that vegetable formations also may be a cause of disease. Klebs says "that infectious diseases can only be considered as a process of parasitic origin, even though the anatomical proof of it cannot be demonstrated."

According to Klebs, those diseases are infectious which are generated by parasites, and parasites are those vegetable formations which generate infectious disease. Nothing can be clearer than this: if we do not know the parasites we cannot see the infection, and *vice versa*.

This theory Klebs tells us was brought forward as long ago as 1845 by Henle, who established it beyond all dispute.

Virchow treats the Parasite theory (regarded as a basis of belief) as a fancy, and those who are acquainted with what has transpired between Henle and Virchow, will not be surprised that Henle's testimony should have very little weight with Virchow. As Henle invented the Parasite theory and the Infectious diseases, or to use Virchow's own expression "made" something in pathology, so now again Henle (I feel bound to adhere to Virchow's phraseology) "makes" something in anatomy, and Klebs in infectious diseases; but he cannot yet find the parasites at the appropriate time, that is to say, previous to and at the commencement of the illness. One would imagine that the parasites, if they are to be regarded as a sufficient cause of the disease, should be



demonstrable at that time, for which one drop of the patient's blood would suffice, while the proofs of parasitic formations (fungi) in the corpse or in the decomposed blood are more or less unimportant and have another signification.

The reason of the theoretical errors of pathologists may lie in the fact, that following the example of physiologists (the many-sided, only not medical, dilettanti) they seek for the causes of the origin of disease, as irritants, in the external world. These presumed causes are the still surviving reminiscences of the theory of John Brown, the gist of which lies in the following formula:—"Life depends upon Incitability, and is nothing more than Incitation produced by the action of irritants on Incitability. Life is therefore only an artificial forced condition." This theory accords with the further dogma, that natural subjects as Microcosm are in continual conflict with the outer world as Macrocosm, which conflict is the cause of life, disease, and death. If Macrocosm conquers, Microcosm is vanquished. In my opinion the life of all natural subjects is conditioned in the form and constitution of their bodies, and as all natural subjects are a part of Macrocosm, together forming one whole, and standing or falling according to the same laws, an essential struggle between Macrocosm and Microcosm is inconceivable, and the causes, and comings and goings of diseases cannot be explained in this manner. It is possible that certain processes in our solar system, utterly unknown to us, may stand in connection with certain phenomena observable in different plants and animals, and this, not in the sense of a mutual struggle, or malign aspect of the one towards the other, but only as a sign of the relationship between Macrocosm and Microcosm.

The origin of the "epidemics" of certain diseases might perhaps be explainable in this way. I allude to the appearance of a disease, its prevalence for an indefinite period, and then its disappearance, leaving no trace behind it. All explanations offered hitherto are unsatisfactory in

the extreme. The conditions blamed being generally the same before, during, and after the epidemics, therefore clearly standing in no connection with them.

That diseases must be regarded as natural objects—as living beings or bodies—admits of no question at the present day, when each cell possesses a life peculiar to itself, and offers for observation a period of development, transformation, and decay. A pathological entity consists, just like any other natural object, of fluid and solid parts, of which the fluids are the older, and are in excess at the beginning of the illness, while the solid are the younger and predominate at its close.

The fluid constituents of a pathological entity are almost entirely unknown. They may take their rise in the fluids, especially in the blood of the sick person, only developing later into the aforesaid more solid parts, and from these, finally, at the recovery of the patient, or the decay of the pathological entity, leaving a possibly discernible scar. The appreciable varieties of the more solid parts of the pathological entity, such as the catarrhal changes in the mucous membrane the exudations, tubercles, cancers and so forth, show plainly that a corresponding condition of the blood and the fluid, must be present. It is impossible to conceive of a variety of product with a normal or unvarying constitution of the fluids. It is at present certain, as a material basis belongs to each manifestation, that those diseases also whose rise or beginning does not lie in the blood or other fluids, those for instance which proceed from the great nerve centres or from some peripheral nerve, or which are enclosed in the same, must also *be regarded as bodies*.

As the fluids are very moveable and liable to changes of admixture, the presumption is more probable that all disease has its origin in the fluids than the view which ascribes it to the more solid parts. This fact might also explain the frequent cropping up and the long prevalence of "humoral pathology," for it is difficult to conceive how the solid parts of the body can

be transformed by scarcely appreciable influences, working, too sometimes for a scarcely appreciable time.

The mechanism of diseases and the causes from which they arise, remain hitherto unexplained, and this is not surprising, inasmuch as scarcely anything is known of the diseases themselves. In the most highly developed natural subjects the mechanism of generation is in some measure known, but in the simplest we are much in the dark, and it is even doubtful whether they proceed from parents of similar organization, or arise by spontaneous generation. As diseases in respect of their forms may lie yet deeper than the simplest organisms, so under the influence of certain unknown causes, they may much more frequently arise in a primitive manner than even the simplest vegetable structures.

The pathologists, who concern themselves very little about the sick, and are therefore little enlightened as to the appearance or spread of disease, treat this subject as one which admits of no doubt. As the equally dictatorial physiologists regard life as the result of the action of Macrocosm on matter, so these pathologists think it perfectly natural that diseases should be the result of external influences on the organism, and divide the influences into the classes of Infection in general and Infection in particular. These regarded as contagion, might according to their statements scarcely be distinguished from intoxication or poisoning.

The designation of processes for the most part unknown, as Infection or Intoxication, is not only incorrect, but mystifying and misleading, and is the visible cause of the mystic aim, "Disinfection," and of many other secret plans, whereby individuals and communities unwittingly bring serious mischief upon themselves.

Now "Disinfection" stands in no relation whatever to disease: it has been invented by persons whose intention lies out of the line of benefitting or enlightening mankind. Disinfection does nothing in the way of preventing disease or rendering it milder. The most that can be said of it is that it makes a change in prevalent smells.



We must confess that many of these smells are extremely unpleasant, but it is in no way proved that they are injurious. This is evident from a slight consideration of the circumstances attending the fattening of beasts, and from the relation that persons following malodorous callings occupy toward different diseases and epidemics. This nefarious "disinfection" is principally carried on by the medical bureaucracy, by the veterinary surgeons connected with them, and by modern surgeons and operators, who believe that they thus preserve patients and their wounds from Bacteria in the air. It would be more to the purpose if they exercised greater care and deliberation in the whole matter of performing operations; this would be salutary, and would render disinfection unnecessary.

If these theories as to Infection and Disinfection had ever so slight a foundation, the placing of lime-twigs about the patient or in the sick room, would be of far more use than the "systematic antiseptic treatment," and would at the same time be far less injurious to the patient than the waste of carbolic acid, or the worse than useless expenditure of quinine, where there is no question of periodicity of attack.

Were it easy to settle the question about the origin of disease, we should certainly have something more definite to show by this time than an everlasting citation of circumstances which must surely have come in the first instance from a set of old women.

Diseases make their appearance equally in large cities, in villages, in isolated cottages, in woods, on mountains, and in the plains; and hitherto it has been impossible, notwithstanding these varied circumstances, to note any difference in the character of the diseases themselves.

In the villages there is no drainage or outfall, and the streets are neither paved nor cleaned; the stables, manure heaps, wells and dwelling-houses lie close together; an arrangement which would not be possible were the inhabitants convinced that these different objects were of hostile

import to each other. Yet, until now, it has not been shown that the diseases of such villages differ in any material respect from those of the neighbouring towns, or that their nature and causes are specially remarkable. There is no doubt that Typhus, Variola, Pneumonia, Scarlatina, Tuberculosis, Scirrhus, and so on, appear in towns, in villages, in outlying cottages, on plains and in hilly districts ; yet the most careful investigation cannot show that these diseases differ in any material respects according to such localities, or offer any special features for observation. It is frequently noted, for instance, that in some out-lying cottage, one which has been cut off from communication with the adjacent neighbourhood during a severe winter, isolated cases of serious disease, Typhus, Pneumonia, Variola, and so forth, have arisen in a mysterious way ; and according as things have taken a favourable or unfavourable turn, there may have been only a single case, or two or three cases may have appeared simultaneously.

Medical men trouble themselves very little about the origin of disease, and think that they are sufficiently enlightened on this point. In the opinion of these philosophers almost every disease comes from "a chill," or from some "error of diet," or from some nervous influence, or is the result of so-called "Infection." What "a chill" is, remains hitherto undefined, and there is not much more to be said as to the remaining causes. As on any inquiry being made these "causes" of disease are brought forward and blamed one after the other, the doctors being assisted in their investigation by midwives and old women ; and as the inquiry generally takes place in the later stage of an illness, it might strike any one that a judgment formed upon such data would not bear criticism, and could in no way serve as a basis for scientific investigation. Most commonly a current of air, a "draught" is blamed for the most varied diseases, although it cannot be denied that thousands of people, like animals, are quite insensible to draughts, and that out of the thousands exposed to

them, only one person here and there, for want of a deeper insight, attributes to them any illness taken at that time.

Man for the most part has to live in the open air, and it would be well not to keep even children too carefully from currents of air, but to harden them, so that instead of finding a draught unpleasant, they might rather desire it, and not be led into error by the prejudices of "culture." If a man has already become effeminate in the leading strings of prevalent prejudices and customs, and so has made himself useless for the necessities of life, it may be possible that a draught under certain circumstances is prejudicial to him. This effeminacy is largely brought about by our artificial and unnatural mode of life, especially by the prevalent custom of eating meat and drinking spirituous liquors. For the cure of the evil a vegetarian diet is best adapted, also the drinking plenty of spring water, a liberal use of baths, avoidance of beer, and of such clothing and house-heating as tend to keep the body uncomfortably hot, and to pre-dispose it to perspiration. In addition to this, man should follow the example of the lower animals, only washing and bathing in cold water (temperature about 22 deg. or 20 deg. Reaumur), and taking just so much exercise as will gently stimulate without fatiguing the body. There is a prevalent notion that people gain strength by meat diet and spirituous liquors, and make themselves fitter for work, whereas the very reverse is the case.

This will appear beyond a doubt if we look at horses and cattle, and compare their strength and "fulness of life" with their mode of living. That the food taken finally influences the psychological character is made clear by even superficial observation, and comparison of the sheep and the tiger, or the eagle and the dove.

"Errors of diet" are not more clearly defined than "chills;" indeed it is impossible to decide whether and how diseases are caused by them. Yet in general it is highly probable that the error of diet blamed has been committed



when the disease was already set up. It is a well-known fact, that though the presence of a disease is as yet scarcely recognized and the appetite is fairly good, the power of digesting food is considerably diminished, or is even altogether in abeyance: hence the food taken either causes discomfort, or is rejected, and this may happen either at the beginning, during the progress, or at the end of an illness. At the commencement of an illness the error of diet is asserted to be its cause, at the end it is the reason of "relapse," both assertions being erroneous. The true explanation is that the power of digestion is lost.

This was specially and continually noticeable in the cholera epidemics. At the commencement of the attack, people took their ordinary meal of meat and vegetables as usual, but could no longer digest it; after two or three hours the food was returned almost unaltered. In the course of a long illness the patient frequently begins to take food before his power of digestion is regained, and therefore the food disagrees with him. In the former case error of diet is assigned as the cause of the disease, and the aforesaid food is erroneously blamed for having produced it—notably in the case of Cholera. As for food not being tolerated before the actual end of an illness, I will merely remark that none but non-professional observers can regard such occurrences as "relapses."

The processes of starvation bear a distant resemblance to those of Typhus, and this may account for death from starvation being sometimes mistaken by laymen for death from Typhus, and for physicians themselves asserting that Famine can produce Typhus! So Virchow has described the famine Typhus in Upper Silesia, though in his rambling and empty monograph we read more concerning democracy on the broadest basis than concerning Typhus. The very designation famine-typhus is misleading. This was an epidemic of Typhus in a district inhabited by ill-fed and wretchedly housed people. Famine as such cannot produce Typhus, though

ill-fed people may have Typhus as well as others, and to this, as to other diseases, they offer less resistance than well-fed and comfortably housed people.

Famine prevailed in Upper Silesia long before the epidemic of Typhus ; the epidemic completed its course, but the misery and the poverty were probably greater after it than before. The position taken by medical men in explaining an epidemic is as follows :—At the commencement they ascribe the outbreak to some previously existing condition, either to the drinking water, or the drainage, or the burial ground. The epidemic disappears, the aforesaid conditions remain unaltered ; but the doctors do not learn to be more cautious in their explanations, and fall into the same errors in the next outbreak of illness.

There is no doubt whatever that life, both vegetable and animal, is not possible without water. But, it is by no means proved that the water of springs and rivers is the origin of disease. Further, it is an established fact, that people in removing from one part of the country to another, have gradually to become accustomed to the water of their new home ; that at first it often causes inconvenience, pointing to a considerable difference in the water ; a fact easily proved by chemical analysis. Yet notwithstanding this difference in the water, unless there are at the same time any strikingly different climatic conditions, the diseases of a district will present no marked variety. Hence it appears more than probable that the water cannot be regarded as giving rise to them. Water is one of the most important parts of the conditions which make up the climate in which we live ; it is needful for our well-being, nay, absolutely indispensable to us ; therefore, water cannot be numbered among the powers inimical and hurtful to the body. The similarity of the diseases arising everywhere, even though the conditions of the water may be very dissimilar, shows that we must seek elsewhere for their origin.

In Prague the same diseases appear as in the villages and hamlets all over the country. Their frequency and severity

are in no way more obstinate or dangerous in Prague than in the country : indeed there were some small places in which, during epidemics, Cholera, Typhus, Dysentery, Variola, Scarlatina, etc., raged more dangerously and intensely than in Prague. How then is the origin of disease in Prague to be ascribed to the water of the city ? How can it enter any one's mind to propose the introduction of water from a distance, when there is no better water than is to be had here ? And what sort of logic is it which asserts that in different individuals the Prague water can set up such varied diseases as Typhus, Pneumonia, Variola, Scarlatina, Puerperal Fever, or any other known epidemic ? In Prague, as everywhere else, disease is not attributable to the water, but must have its origin in other causes.

Not very many years ago, there was a prevalent opinion amongst physicians that Prague was one of the healthiest cities in Europe, and one specially fortunate in its drinking water. The latter fact was asserted over and over again by the late Professor of Chemistry, Dr. Pleischel, and enlarged upon in a treatise written by him.

At the time when the author of this pamphlet was making investigations on the subject in the Vienna Hospitals, and in the Pathologico-Anatomical Institute attached to them—an Institute which has hitherto fully sustained its world-wide reputation—an Institute with which no other of a similar kind can compare, for it towers above them all like a giant—there was never a doubt raised as to the two facts stated above, and often enough the author saw cause for reflection when he asked himself why epidemics of Puerperal Fever, Typhus, Dysentery, and so forth, should prevail in Vienna to an extent and with a virulence undreamt of in Prague.

No one can deny that the wells in Prague are very numerous—in the proportion of one to almost every house—and where they are kept in good condition, there is good water. Besides this, there are in almost every street one or two wells containing water of exceptionally good quality ; therefore we



surely have no need to bring water from a distance—water which could never be supplied in sufficient quantity, and the quality of which would gradually fall below that of our own wells.

If our spring water is judged of by personal knowledge, or by the dictum of expert outsiders, and compared with that of other large cities, it will be found that Prague stands behind no European capital in this respect ; indeed it must be placed considerably higher than either Dresden, Berlin, Hamburg, Paris, London or St. Petersburg. Our springs are pure and fresh, their temperature about 6 or 8 deg. Reaumur, they have a pleasant taste, promote digestion, and produce no diarrhœa. These are essentially the characteristics of a good spring. People coming from all other parts to Prague candidly confess that the water is superior to that of their own homes.

Now if these facts are compared with the common assertions to be found in the political, social, and general press of Europe and America, we ask with astonishment—What motives can have called forth views so contrary to the truth, and so extremely prejudicial to the interests of our city ?

The animadversions on the water of Prague, to which I allude, are to be met with in many political papers, in medical pamphlets, in the best known German, English, and American guide-books, and have caused incalculable injury to Prague, damaged its trade and commerce, lessened the value of its products—and this for the sole reason that a fashion prevails among medical men of seeking for the origin of disease in the water of a place.

The Municipal Government of Prague, notwithstanding its precarious financial condition, has instituted a statistical bureau, which is at considerable pains to uphold the afore-said agitation by means of false computations. Now apart from the important fact that medical doctrine, in its present condition, is not fitted for statistical calculations, all the figures as to sickness and mortality in Prague are untenable.

The number of the population is not definitely ascertained. The districts are not clearly defined in which the computation is made, and it is much more probable that the area from which the deaths are derived, has a population of over 250,000 instead of 170,000, which latter number the statistical bureau endorses.

Finally, for any comparison of a statistical kind, there must be first a certainty that the units to be compared are similar in kind ; that those employed in making the statistics, have proceeded on similar principles, have followed a similar method, and have striven in a similar spirit of earnestness to discover the truth.

It is certainly a striking fact that the physicians and the dilettanti connected with them, who have been so eager to run down the water of Prague, and on the other hand to cry up " mineral waters," are not shy of drinking the latter, and of praising for medicinal qualities what was formerly known as foul and fetid water.

In this they are led by the same logic as that which we noticed in regard to " preventive-pox." They appear to think that in a fit of ill-humour our good mother nature has sent many diseases to her children, but has at the same time created many healing herbs and medicinal springs, by means of which the wealthy and educated can preserve themselves. The " lower animals " do not drink mineral waters, probably because they do not possess university culture. They also avoid warm baths. One species alone from time immemorial has made use of what human beings only in the latest times and owing to the great progress of therapeutics, have come to use, viz. : " mud-baths," warmed in the sun. Is this perhaps the reason why our kind and wise mother nature allows the uneducated " lower animals " to be so often treated with the stick ?

The hostile and systematic agitation against the water of Prague has had other serious consequences. Many people have given up water drinking and even children are trained

to drink beer and encouraged in this pernicious habit. Children and young people should drink only water; it should be the endeavour of those who bring them up to give them a distaste for beer and other strong drinks. Indeed the fact cannot be too widely disseminated that of all beverages, water alone can be of real service to health, that beer weakens the memory, dulls the intellect, causes undue exudation and perspiration, and finally gives harshness to the features and an appearance of premature age.

For more natural training our schools must be differently constituted—the school buildings must be kept cool and airy, the teachers must be water drinkers, and favour vegetable more than meat diet; then, and then only, the schools will become a benefit to mankind and gain power for efficient work.

It cannot, of course, be denied that many diseases arise from infection—this is incontestibly the case both with Variola and Syphilis. With regard to Variola, it may be communicated by Vaccination with the matter contained in the pustules, also by the blood, the sweat or the saliva: and it is most probable that inhalation of the exhalations of a patient may not infrequently convey the disease.

With regard to Syphilis it has been proved that Inoculation with the morbid fluids, the blood or the saliva will convey the disease; inhalation of the vapours from a syphilitic person can hardly be unprejudicial, but this is a matter more difficult of proof. Syphilis is also frequently inherited.

On the other hand it must be conceded that both of these diseases sometimes arise independently, without any recognized external cause. This is not at all unusual with Variola, and has been proved of Syphilis with regard to some animals, hares, cattle, etc.

Variola appears at indefinite times, in the form of epidemics of varied extent and severity, the origin of which is as mysterious as their frequently rapid disappearance. We are

bound to confess that their origin, their continuance, and their disappearance, are entirely beyond our comprehension ; but that they cannot either be caused or kept up by Infection is clear, because neither their beginning, nor ending, admits of this explanation. We certainly cannot account for an epidemic of Variola in this way, for if, during its prevalence, experiments by means of Inoculation could be made in the affected districts, the result of such experiments could not be accepted as decisive, because they might be only the simple effects of the epidemic itself.

If we except Variola and Syphilis, the opinion of medical men as to the contagiousness of disease is very divided. For while one observer distinctly declares Typhus, Scarlatina and Tuberculosis to be contagious, a second is doubtful, and a third as distinctly denies it. The disease called Rabies—Hydrophobia—is also denied by medical men, and it is no doubt true that we know nothing about it ; that we cannot demonstrate it in the dead subject, and that the foolish reports about mad dogs and their victims do an immense deal of harm. Whoever has had the opportunity of observing the distress and anxiety of anyone injured by a dog will at once endorse my words.

For the reasons given above, and many others, Infection cannot be assumed as a basis in classifying diseases. By far the greater part of Infection is more than hypothetical, and here I agree with Virchow—though he himself has often acted in opposition to this principle—that hypotheses are out of place in the schools. Hypotheses in medicine correspond to the varied experiments made with apparatus in mechanics, but without them both, progress is not easily conceivable.

Finally, I draw attention to the fact that certain diseases are communicated by generation, the most noteworthy in this respect being Tuberculosis, Syphilis, and “ mental diseases.”

How diseases or any peculiarities of bodily formation, and still more, how intellectual quality can be inherited, is a



matter that passes our comprehension. Who can account even for the re-appearance of mother-marks, of squints, of particular formation of the hand, the teeth, etc.? Yet these facts being indisputable, it is surely plain that diseases may be communicated by Vaccination ; of Tuberculosis and Syphilis indeed this has been proved beyond a doubt.

According to Professor Klebs, the sprinkling of the streets of Prague with water taken from the Moldau, caused much illness, in consequence of the liberation of Bacteria. No ground whatever can be given for this opinion ; it also belongs to the region of faith. But how singular that with such a keen sense of Infection, it should be possible to uphold Vaccination.

Under ordinary conditions belief is easily tolerated, if no evil motive underlies it, but rather a future full of hope. As regards the assertion, however, that the water of the Moldau is not even fit to water the streets, we are compelled to feel differently. Such a verdict appears to be the expression of a special and peculiar malevolence. It is on a par with the endeavour made by Klebs to deny to Science any international character—probably he meant here in Prague, where Science belongs only to him and his foreign and mystified friends ! They are not to be envied their property, and the world in general will not suffer.

Knowing actually nothing of the origin of disease, what remains to us, but as in the case of all other matters of philosophical research, to busy ourselves with the material lying before us, to inquire into the processes of its life, and into every circumstance connected with it,—if by any means we can gain some benefit for the sick.

And in this investigation, first comes the fact, that the number of diseases is far greater, and their severity far more considerable, amongst destitute and badly-housed people, than with those who enjoy some comfort and lead an orderly life. The well-to-do classes have a more hale and hearty appearance, are less frequently a prey to illness, and when they are

attacked the malady is of a lighter character; they always look younger than the more destitute, and attain to a greater age.

As physicians, and consequently laymen, ascribe so much disease to the blood, we can readily imagine that the classes most exposed to privation and anxiety are likely to suffer from poverty of blood, and that this might be one great cause of the frequency and severity of their attacks.

Amongst the diseases of mankind, the most common undoubtedly are "inflammations,"—or the manifold exudations which arise out of the courses of the blood—and most deaths are attributable to these causes. Since even death by starvation cannot take place without such inflammation, and since people suffering from destitution and poverty of blood are much more frequently attacked by inflammation than the well-fed and strong, since also they succumb much more readily to illness, we gather the weighty experience that as large a quantity of blood as possible is most conducive to health, that this preserves the body from inflammatory attacks, or when attacked gives it a better chance of recovery.

If after death the sum and state of the blood that is in the body could be definitely known, we should, I think, often be horrified at the small remainder of the torn elements left, with traces only here and there of homogeneous composition, and we should see how inevitable death was.

I think I was almost the first to point out that amongst the forces which distribute the blood, a certain *quantity* is indispensable. When this is lacking, the remaining forces are insufficient, and there arise in various peripheries—most commonly in the lungs—Coagulations, Stasis, Embolism, Thrombus, and all the further developments of "inflammation." These various cases are explained by anatomists in a manner quite contrary to the facts of the case, as "fulness of blood," Hyperæmia, etc., etc.

The frequency as well as the severity of these attacks amongst destitute and impoverished people is hereby



explained. When in such persons febrile phenomena manifest themselves as the expression of unusual chemical changes in the fluids, which I mentioned previously as the first part of the disease, the blood then begins rapidly to diminish in quantity. We can the more readily understand this if we take into account the simultaneous failure of the digestive powers, and the increasing quantity and changed character of the secretions and exhalations : and then finally we have the familiar exudations from the blood-current and the probable tragic end of the case.

In dropsy and some other diseases no correct estimate can be formed after death as to the quantity of blood in the body—the conditions inside the skull cannot be judged by ordinary rules. On this subject I have already written and spoken much.

It is very difficult to determine whether the blood in a healthy person can exceed the necessary quantity ; for Plethora is only a presumption, detrimental to those who maintain it. When, as frequently happens, there is any thing to be desired in respect of quantity, it lies invariably in the repair of deficiency. We can hardly conceive of a vascular system so constituted as every now and then to contain a quantity of blood in excess of the usual standard.

Observation of a normal course of pregnancy supplies an illustration of my meaning. At the commencement, when the appetite is good and the meals are taken with perhaps more zest than usual, a certain pallor is not infrequently observable, which becomes more and more marked. At the end of the time there are often distinct traces of dropsy. I explain this condition by the fact, that the vascular apparatus of pregnancy is insufficient for two individuals. Hence how unpractical and injurious it is, to administer purgatives to lying-in women ; and what a miserable condition medicine must be in, when such practice finds acceptance !

This also is a part of the great advance of therapeutics in modern times !

As the body is built up and sustained by materials brought from without, it requires very little reasoning to show that the blood mass will be diminished in proportion as the food is insufficient or improper. The wasting of the blood and therewith of the other materials of the body becomes more manifest, as, by reason of failing digestion and refusal of nourishment, the intensity of the chemical changes increases, showing itself mostly in the form of febrile disturbance.

Should the refusal of nourishment continue for ten days or more, and the patient suffer a constant high temperature, and should these circumstances not be specially taken into consideration, death may result from starvation, independently of the disease itself. In some conditions the wasting of the blood takes place so rapidly, that the arteries inevitably break up, and sudden death ensues.

For the ordinary course of the circulation of the blood, a certain quantity is indispensable, and there must be no breach or weak part in the arteries, or in the structures of the heart, or of the venous channels inside the chest. The visible cracks and crevices in the arteries such as are sometimes seen in the dead subject, are amongst the immediate causes of death. They are more readily seen and demonstrated than so-called lesions, but have not hitherto met with much notice from medical men. To be ill then is almost synonymous with *undergoing diminution of the blood*, and it is contrary to all common sense, during the course of any illness, to speak of an increase of the blood generally, or of any of its constituent parts, such as fibrine, blood-corpuscles, etc.

Those parts of the body invaded by inflammation cannot suffer from increase of blood, because the vessels belonging to them cannot increase their calibre: they scarcely show even the ordinary fulness, for the circulation of these parts is gradually retarded, and at the highest development of the Stasis, from defect of the usual healthy change of material, they wither and die. The words Hyperæmia, fulness of blood, etc., do not apply. Redness—ruber, and swelling—tumor, are capable of quite another explanation.

The mischievous alchemistical tendency at present so prevalent in practical medicine is the ground of the theory, that by certain arts the lives, not of men only but of animals, may be lengthened, and that diseases may be cut short, changed, or rendered mild in character. The school on this foundation has nowhere effected any good results, nor can it do so, since it seeks to overthrow unchangeable laws of nature.

Man, as he is, is made at birth, he cannot be improved upon, and it is the duty first of those who surround him, and later on of the man himself, to study his qualities and tendencies, that they may not be hampered or checked by inappropriate conditions, that his life may not be shortened or his talents cast away.

Since disease must also be regarded as a natural object, and since its origin and mechanism are alike almost entirely unknown, and since in so far as they are comprehended they must be regarded as *given*, it follows from the universal philosophical stand-point, that each disease has its own special life-course, and that it lies in the very form and intrinsic make of its nature, whether it bring to the individual recovery, decay or death.

To the natural philosopher appertains the difficult task of investigating the relationships of disease ; of ascertaining its nature and symptoms ; of deciding under which conditions it tends towards recovery ; under which, its natural development may be checked. This is the usual path of a naturalist, to seize the proper objects, to investigate their properties, and in order to benefit himself and others to avoid the old methods, which contain little or no knowledge of the subjects in hand ; or else to alter or improve them.

The first and weightiest duty of the physician is to make himself acquainted with all that tends towards an understanding of disease. A physician is useful and agreeable—a friend and not a nuisance—only in so far as he finds it possible to judge of the state of the patient's organs, to shield him from injury, to spare him unnecessary privation, and to further his possible enjoyment.



Not very long ago doctors were of opinion that richness and fulness of blood were the cause of most diseases. This view subsists still in some districts. Elderly ladies are especially at home on this subject, and they talk of "fulness of blood" and "flushes" "glows" and "heats" connected with these conditions; while the case is just the contrary. And in the same way, taking them all round, medical men are not much wiser.

Owing to my personal and determined efforts, blood-letting has been given up in many places, or at any rate the practice has been considerably modified: and in the Clinic directed by me for eight years, not one drop of blood has been taken from a patient.

My Clinic has been visited by professors, physicians, and students from almost every European and transatlantic university; the method and its results have been studied with rare zeal, and judging by their utterances, their surprise and their evident conviction, the enormous divergence of their schools from ours has become plainly apparent.

The principles contained in this treatise formed the basis of my practice—but this is not the place to enlarge upon it further.

With regard to internal medicine, very little that is new has been done since that time; nay, some retrograde steps have to be recorded, and I confess to a fear that many more will be taken. Where the folly of a Semmelweiss has found acceptance, where Infection and Disinfection, the prevention and cure of Epidemics, and similar errors are gravely discussed, we may fairly give way to fears of lamentable retrogression—of the introduction of compulsory Vaccination—of legislative enactments about methods of healing, etc., etc.

Among these latter we may chronicle the proposals for dealing with cattle disease. Thus in accordance with the malevolent report of a neighbour regarding a sick cow, where the appointed Commission finds a difficulty in deciding firstly, whether the cow is sick? and secondly, from what disease it



is suffering ? the animal may not only be slaughtered, but the entire well-being of the owner may be placed in jeopardy ! Still further, a farm or property may be cut off from the surrounding district, a cordon placed round it ; and thus the trade and commerce of the whole country be restricted, and all this sacrifice made to medical senselessness !

LONDON :

ABRAHAM KINGDON AND CO., PRINTERS,  
52, MOORFIELDS, MOORGATE, E.C.